

CLAIMS

1. A magnetic marking system, characterized in that it comprises, on or in a carrier (2), in correspondence
5 with pre-established parallel positions (4) separated by a constant gap (e) according to a pre-established frame, one or more wires (5) having ultrasoft ferromagnetic properties, these parallel wires being present or absent in each of said positions (4) so as
10 to form, through the set of wires (5) present or absent, a detectable binary code.

2. A magnetic marking system, characterized in that the carrier is of the two-dimensional type and
15 constituted by a sheet of adhesive-coated material (2), which fixes the wires (5) having ultrasoft ferromagnetic properties in their pre-established positions (4).

20 3. The magnetic marking system as claimed in claim 2, characterized in that the adhesive-coated carrier sheet (2) is covered, at least in its initial state, with a protective sheet (3), of the silicone-coated paper kind, which thus also covers the wires (5).

25

4. The magnetic marking system as claimed in claim 2 or 3, characterized in that the carrier sheet (2) is a transparent sheet.

30 5. The magnetic marking system as claimed in claim 1, characterized in that the carrier is of the three-dimensional type, in which case the wires (5) having ferromagnetic properties are embedded in the thickness of this carrier, in their pre-established positions
35 (4).

6. The magnetic marking system as claimed in any one of claims 1 to 5, characterized in that the wires (5)

are glass-clad amorphous ferromagnetic filaments.

7. The magnetic marking system as claimed in claim 6, characterized in that the metal core of the filaments
5 (5) possesses a diameter of the order of some ten to a few tens of microns, the thickness of the glass cladding not exceeding a few microns, the total diameter of the filaments not exceeding 50 microns.

10 8. The magnetic marking system as claimed in claim 6 or 7, characterized in that the filaments (5) are made from an amorphous magnetic alloy composed of cobalt or of iron, of nickel, of boron, of silicon and of carbon.

15 9. The magnetic marking system as claimed in any one of claims 1 to 8, characterized in that the wires comprise, in addition to the wires (5) defining a binary code, a first wire (6) for tagging the start of the reading zone.

20

10. The magnetic marking system as claimed in any one of claims 1 to 9, characterized in that in the reading zone, the spacing between the possible positions (4) of wires (5) is equal at the minimum to 2 millimeters.

25

11. The magnetic marking system as claimed in any one of claims 1 to 10, characterized in that at least one nondetectable wire, for example a nonmagnetic wire, constituting a "decoy" is incorporated into the marking

30

(1).

12. A method for the production of a magnetic marking, more particularly of a marking (1) constituted by a carrier sheet (2) made of adhesive-coated material,
35 which fixes the wires (5) having ferromagnetic properties in their pre-established positions (4), this carrier sheet (2) having to be covered with a protective sheet (3), as claimed in claim 3,

characterized in that it consists in unwinding (F1) a coil (9) of virgin adhesive complex, which coil consists of a carrier sheet (2) made of adhesive-coated material and of a protective sheet (3) covering the adhesive-coated face, in performing an operation of delamination of this adhesive complex, consisting in separating the adhesive-coated carrier sheet (2) from the protective sheet (3), while advancing (F2, F3) these two sheets (2, 3), in depositing wires (5) having ultrasoft ferromagnetic properties on the adhesive-coated carrier sheet (2) in the longitudinal direction of travel (F2) of this sheet (2), while positioning the wires (5) transversely in a precise manner in correspondence with the code adopted for the marking (1), then in performing a relamination operation, consisting in returning the protective sheet (3) onto the adhesive-coated carrier sheet (2) henceforth furnished with the wires (5), and finally in rewinding (F4, 12) the reconstituted adhesive complex and incorporating the wires (5).

13. The method as claimed in claim 12, characterized in that the coil (12) finally obtained is subjected to printing and cutting operations, so as to obtain separate adhesive carriers, for example magnetically coded labels (1) with incorporated wires (5).

14. A machine intended for the implementation of the method as claimed in claim 12 or 13, for the production of the magnetic marking (1) constituted by a carrier sheet (2) made of adhesive-coated material which fixes the wires (5) having ferromagnetic properties in their pre-established positions (4), this carrier sheet (2) being covered with a protective sheet (3), characterized in that it comprises, in combination (26) and from upstream to downstream:

- means (14, 17) for carrying and unwinding a coil (9) of virgin adhesive complex, consisting of a

carrier sheet (2) made of adhesive-coated material and a protective sheet (3);

- means (15) of bringing and depositing wires (5) having ultrasoft ferromagnetic properties onto the adhesive-coated sheet, including means (37, 38) for the transverse positioning of these wires (5) in correspondence with the code adopted for the marking (1);

- means (16) of relamination, ensuring the rejoining of the protective sheet (3) and of the carrier sheet (2) made of adhesive-coated material, furnished with the wires (5); and

- means (24, 25) of driving and winding up the reconstituted adhesive complex incorporating the wires (5).

15. The machine as claimed in claim 14, characterized in that the means (15) of bringing and depositing wires (5) having magnetic properties comprise:

- a vertically mobile carrier (30), for a plurality of coils (10) of wires (5) having ferromagnetic properties;

- means (31) for the initial fastening and the pulling of the ends of the wires (5) emanating from these coils (10); and

- between said coils (10) of wire (5) and these means of fastening and of pulling (31), a device (32) for transverse positioning of the wires (5).

16. The machine as claimed in claim 15, characterized in that the means (31) for the initial fastening and the pulling of the ends of the wires (5) emanating from the coils (10) comprise a ram (34), oriented longitudinally, whose frontward directed rod bears members (35) for fastening the ends of the wires (5).

17. The machine as claimed in claim 15 or 16, characterized in that the device (32) for transverse

positioning of the wires (5) comprises a comb (37), whose various teeth are transversely displaceable, a ram (38) being provided for controlling the raising and the lowering of the comb (37).

5

18. The machine as claimed in any one of claims 15 to 17, characterized in that it is furthermore equipped, in its downstream part, with means (26) for checking the presence and the correct positioning of the laid
10 wires (5), these means (26) being able to intervene by "reading" the code formed by the wires (5).

19. The machine as claimed in claim 18, characterized in that it comprises, interposed between the means (15)
15 of bringing and depositing the wires (5) and the means (16) of relamination, at least one additional module (39) for laying a wire (5), making it possible to automatically cope with the "breakage" of a wire (5), noted by the means (26) for checking the presence and
20 the correct positioning of the wires (5).